

U.S. Application No.: 10/614,095
Response to Office action of May 14, 2007
Attorney Docket No.: FSF-031401

REMARKS

Claims 1 and 2 have been amended. Claims 5 and 6 have been canceled. Claims 1-4, 7-10 and 12 and withdrawn claims 13-20 are pending in the application.

I. Response to Claim Rejection under 35 U.S.C. § 112

Claims 1-4, 7-10 and 12 were rejected under 35 U.S.C. § 112 second paragraph as being indefinite. The Examiner's concerns have been addressed by the present amendment which clarifies the amounts of iridium and the metal selected from the group consisting of iron, copper, rhodium and ruthenium in the silver halide grains.

II. Response to Claim Rejections Under 35 U.S.C. § 103

A. Okada et al. in view of Yanagisawa et al. and EP ('310)

Claim 1-9 and 12 were rejected over U.S. Patent No. 6,120,983 to Okada et al. in view of U.S. 2002/0028414 to Yanagisawa et al. and EP 1096310. This rejection is respectfully traversed. Okada et al. relates to a photothermographic material in which the silver halide has a core/shell structure including metal complexes. Okada et al. states that the distribution of metal within the grains is not critical: "The distribution of the metal complex in silver halide grains is not critical. That is, the metal complex may be contained in silver halide grains to form a uniform phase or at a high concentration in either the core or the shell" (col. 36, lines 31-35). In other words, Okada et al. fails to disclose the specific distributions of the metals recited in the claims of the present application. Okada et al. is also

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silent about any advantage obtained by adopting the specific distributions. Yanagisawa et al. and EP'310 also fail to specifically teach the specific distribution of the metals recited in the claims of the present application. In particular, Yanagisawa et al. mentions only the (first) metal that is used preferably at nuclei formation. Even though Yanagisawa et al. describes in paragraph [0080] "Compounds, which provide these metal ions or complex ions, are preferably incorporated into silver halide grains through addition during the silver halide grain formation...these are preferably added at the stage of nuclei formation, growth, and physical ripening", Yanagisawa et al. is silent about the portion to which a second metal is to be added.

In contrast, in the present invention, Ir is doped mainly to the core portion, and a metal selected from the group consisting of iron, copper, rhodium and ruthenium is doped mainly to the shell portion. Such specific distribution of the specific metals (doping of the specific metals to the specific portions) are neither taught nor suggested by the combination of Okada et al., Yanagisawa et al., and EP'310.

Declarations under §1.132 were submitted on February 3, 2005 and August 23, 2005. Through those Declarations, it has been clarified that the specific distribution of the specific metals according to the presently claimed invention produces results (including improved printout) that are unexpected from the cited references. The technical significance shown in the Declarations is also applicable for comparison with Okada et al. since Okada et al. does not describe the specific distribution of the specific metals.

Further, compounds such as Fe and the like are often used in a form of a CN complex, as exemplified in paragraphs [0047] to [0079] of

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Yanagisawa et al. When a silver halide is precipitated at low pH during washing with water, undoped CN compound may take a form of HCN. There may also be an interaction between CN and a chemical sensitizer, such as inhibition of chemical sensitization caused by ligated chloroauric acid. Therefore, if such a metal is to be doped to grains, it is a general notion that doping to the core portion is preferable especially when the grain size is small and the complex is easily exposed on the surface. In contrast, the presently claimed invention recites doping of a metal selected from selected from the group consisting of iron, copper, rhodium and ruthenium to the shell portion. This is opposite to the general notion. The cited references do not mention any technical significance associated with doping of a second metal to the shell portion. Further, the results obtained by the presently claimed invention are unexpected from the combination of the cited references. For the reasons described above, Applicant submits that the combination of Okada et al., Yanagisawa et al., and EP'310 neither teaches nor suggests the presently claimed invention, and respectfully requests withdrawal of the rejection.

B. Okada et al. in view of Yanagisawa et al., EP ('310), and Farid et al.

Claim 10 was rejected over U.S. Patent No. 6,120,983 to Okada et al. in view of U.S. 2002/0028414 to Yanagisawa et al. and EP 1096310 further in view of US Patent No. 5,747,236) to Farid et al. This rejection is respectfully traversed. The combination of Okada et al, Yanagisawa et al., and EP'310 does not teach or suggest the presently claimed invention, as

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described in item A. Farid et al. is also silent about the specific distribution of the specific metals described in the claims of the present application, and the results achieved by the presently claimed invention. Therefore, Farid et al. cannot cure the deficiency, and the combination of Okada et al., Yanagisawa et al., EP'310, and Farid et al. does not teach or suggest the presently claimed invention.

Accordingly, Applicant respectfully requests withdrawal of the rejection.

In view of the foregoing amendments and remarks, it is submitted that all of the claims currently pending in the application are in condition for allowance. Early and favorable action is respectfully requested.

Respectfully submitted,



Margaret Burke

Registration No. 34,474

Taiyo Corporation
401 Holland Lane, Suite 407
Alexandria, VA 22314
703-838-8013

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